Amendments to the Claims

This listing of claims will replace all prior versions, and listings, of claims in the application:

1. (Currently Amended) A recombinant factor VIII comprising an A1 domain that includes a substitution of a glutamic acid residue corresponding to position 113 of SEQ ID NO: 2 ~~at the fourth position of a calcium binding site of the A1 domain~~, wherein the recombinant factor VIII has a specific activity, as measured in a one-stage clotting assay, that is higher than that of a wild-type factor VIII.

2-3. (Cancelled)

4. (Previously Presented) The recombinant factor VIII according to claim 53, wherein the substitution is selected from the group consisting of alanine, valine, isoleucine, leucine, asparagine, glycine, and methionine.

5. (Previously Presented) The recombinant factor VIII according to claim 53, wherein the substitution is alanine.

6. (Currently Amended) The recombinant factor VIII according to claim 53 ~~1~~, wherein the recombinant factor VIII has a specific activity at least about twice as great as the activity of the wild-type factor VIII.

7-8. (Cancelled)

9. (Currently Amended) The recombinant factor VIII according to claim 53 ~~1~~, wherein the recombinant factor VIII is B domainless.

10-11. (Cancelled)

12. (Currently Amended) The recombinant factor VIII according to claim 53 ~~1~~, wherein the recombinant factor VIII has a circulating half-life value that is equivalent to or greater than that of the wild-type factor VIII.

13. (Currently Amended) The recombinant factor VIII according to claim 53 ~~1~~, wherein the recombinant factor VIII is substantially pure.

14-18. (Cancelled)

19. (Original) A pharmaceutical composition comprising the recombinant factor VIII according to claim 1.

20. (Original) The pharmaceutical composition according to claim 19 further comprising a stabilizer.

21. (Original) The pharmaceutical composition according to claim 19 further comprising a delivery vehicle.

22. (Original) The pharmaceutical composition according to claim 19 further comprising a pharmaceutically acceptable carrier.

23-47. (Cancelled)

48. (Withdrawn) A method of treating an animal for hemophilia A, the method comprising:

administering to an animal exhibiting hemophilia A an effective amount of the recombinant factor VIII according to claim 1, whereby the animal exhibits effective blood clotting following vascular injury.

49. (Withdrawn) The method according to claim 48, wherein the effective amount comprises between about 10 to about 50 units/kg body weight of the animal.

50. (Withdrawn) The method according to claim 48 wherein the animal is a mammal.

51. (Withdrawn) The method according to claim 50 wherein the mammal is selected from the group consisting of human, rat, mouse, guinea pig, dog, cat, monkey, chimpanzee, orangutan, cow, horse, sheep, pig, goat, rabbit, and chicken.

52. (Withdrawn) The method according to claim 48 further comprising:

periodically repeating said administering.

53. (Previously Presented) A recombinant factor VIII comprising an A1 domain having a calcium binding site according to one of SEQ ID NOS: 4-7 except that the calcium binding site has a substitution of the glutamic acid residue at the fourth position thereof, wherein the recombinant factor VIII has a specific activity, as measured in a one-stage clotting assay, that is higher than that of a wild-type factor VIII.

54. (Cancelled)

55. (New) The recombinant factor VIII according to claim 1, wherein the substitution is selected from the group consisting of alanine, valine, isoleucine, leucine, asparagine, glycine, and methionine.

56. (New) The recombinant factor VIII according to claim 1, wherein the substitution is alanine.

57. (New) A pharmaceutical composition comprising the recombinant factor VIII according to claim 53.

58. (New) A method of treating an animal for hemophilia A, the method comprising:

administering to an animal exhibiting hemophilia A an effective amount of the recombinant factor VIII according to claim 53, whereby the animal exhibits effective blood clotting following vascular injury.